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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR       | ATTORNEY DOCKET NO. | CONFIRMATION NO.   |
|--|-------------|----------------------------|---------------------|--------------------|
| 09/807,719   | 07/13/2001  | Jacques Joseph Henri Orban | 14,0125             | 4028               |
| 7590   | 06/15/2004  |                            | EXAMINER            |                    |
| WESTERNGECO, L.L.C.<br>P.O. BOX 2469<br>HOUSTON, TX 77252-2469 |             |                            |                     | GUTIERREZ, ANTHONY |
|  |             | ART UNIT                   | PAPER NUMBER        | 2857               |

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                   |              |
|------------------------------|-------------------|--------------|
| <b>Office Action Summary</b> | Application No.   | Applicant(s) |
|                              | 09/807,719        | ORBAN ET AL. |
|                              | Examiner          | Art Unit     |
|                              | Anthony Gutierrez | 2857         |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 27 April 2004.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2 and 46-88 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1,49,51,60-62,64,71, and 80-82 is/are rejected.  
 7) Claim(s) 2,46-48,50,52-59,63,65-70,72-79 and 83-88 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 13 July 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) Paper No(s)/Mail Date. \_\_\_\_\_.  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_. 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 49, and 64, are rejected under 35 U.S.C. 102(b) as being anticipated by Owen et al. (US Patent 4,409,899).

As to claims 1 and 64, Owen et al. discloses (see Fig 1.) placing a positioning device in a particular location (element 10, where the detected aircraft is considered by the Examiner to be a positioning device since the target range  $R_t$  is determined based on the position of the aircraft); placing a seismic sensor near said positioning device (element 11); and determining the distance between said seismic sensor and said positioning device using an airborne acoustic transmission between said positioning device and said seismic sensor (the phrase "Target Range,  $R_t$ " and the phrase " Airborne Sound Waves" and columns 3-5).

As to claim 49, Owen et al. further discloses wherein said airborne acoustic transmission is a pulse, frequency sweep, or digitally encoded sweep acoustic signal (col. 3, lines 29-32).

3. Claims 60-62 and 80-82 are rejected under 35 U.S.C. 102(b) as being anticipated by Michel (US Patent 4,811,308).

As to claims 60 and 80, Michel discloses placing a positioning device in a particular location (col. 3, lines 18-33 and 62-65), where the Examiner considers the stealth aircraft to be the positioning device since it is detected based on its location; placing a seismic sensor near said positioning device (col. 3, lines 44-50); and determining the distance between said seismic sensor and said positioning device using an airborne acoustic transmission between said positioning device and said seismic sensor (col. 3, lines 62-65), wherein said seismic sensor is a first sensor and further including additional seismic sensors and the step of determining the distance between said additional seismic sensors and said positioning device using airborne acoustic transmissions between said positioning device and said additional seismic sensors (col. 3, lines 44-col. 4, line 3) where the location of the stealth aircraft is determined based on triangulation of at least three sub-arrays of multiple seismic sensors.

As to claims 61 and 81, Michel further discloses calculating a group center of gravity for said first seismic sensor and said additional seismic sensors (col. 3, lines 62-65).

As to claims 62 and 82, Michel further discloses determining whether said first seismic sensor and said additional seismic sensors have been laid out in a prescribed order (col. 3, lines 48-50).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 51 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Owen et al. (US Patent 4,409,899).

The method of Owen et al. involves the correlation of acoustic and seismic signals as best demonstrated in Figure 1, where a microphone (element 12) and a seismic sensor (element 11) detect acoustical transmissions from an aircraft (element 10).

Owen et al. further discloses that although the speed of sound in air is reasonably constant, being mildly dependent on air temperature, if accuracy requirements dictate the need, air temperature could be sensed and the necessary corrections performed (col. 1, lines 35-44).

It therefore would have been obvious to one of ordinary skill in the art at the time of invention to include a temperature sensor for measuring temperature of the air near said seismic sensor or positioning device in order to provide more accurate target information.

**Allowable Subject Matter**

6. In the previous office action, the Examiner indicated that claims 2,46,47,50,53-59,63,65-67,69,70,72-79 and 83-88 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Applicant has not rewritten these claims, so the objection still stands.

It is to be noted for the Record that the Examiner made a typographical error in the previous action indicating that claims 72-79 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. The action should have stated that claims 73-79 were objected to. Claim 72 was previously also rejected under 35 U.S.C. 102 (b) and is addressed below.

The Examiner here in the present action, withdraws rejection of claims 48, 52, 68 and 72 and presently objects to these four additional claims as being dependent upon a rejected base claim, but which would also be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for indication of claims 52 and 72 as containing allowable subject matter:

The Examiner has relied on US Patent 3,547,218 to Hamilton, as teaching all the limitations of claims 52 and 72, including placing a positioning device near a survey flag.

Hamilton indicates (Abstract) that the method is a geophysical prospecting method using seismic impulses.

As the Applicant has argued, a geophysical prospecting method (or seismic survey) would imply to one of ordinary skill in the art that a positioning device be placed near a relatively immobile seismic sensor.

Although such a device is present in the reference (in the form of a survey flag at a test site (element 14 of Figure 1) as opposed to a helicopter (element 11) as originally held by the Examiner, the flag is presumed to be at a **known** distance from the geophone stations (seismic sensors; elements 16 and 17). This is apparent as Hamilton discloses that the stations are located at spaced intervals from the test location (column 3, lines 4-7).

The Applicant's claims 52 and 72 are therefore deemed to contain allowable subject matter over the prior art since the prior art fails to teach or fairly suggest determining the distance between a seismic sensor and a positioning device, using an airborne acoustic transmission between said positioning device and said seismic sensor wherein the positioning device is placed near a survey flag.

8. The following is a statement of reasons for indication of claims 48 and 68 as also containing allowable subject matter:

The Applicant's claims 48 and 68 are deemed to contain allowable subject matter over the prior art since the prior art fails to teach or fairly suggest determining the distance between a seismic sensor and a positioning device, using an airborne acoustic transmission between said positioning device and

said seismic sensor wherein the acoustic transmission is a spread spectrum acoustic signal.

### **Response to Arguments**

9. Applicant's arguments filed 4/27/04 have been fully considered but they are not persuasive with respect to all claims addressed by the Applicant except for claims 48, 52, 68, and 72 as addressed above.

The Applicant has argued that the preambles of claims 1 and 64 imply a host of assumptions which would suggest that the preambles are not merely statements of intended use.

The Applicant has suggested that positioning devices and seismic sensors have well known qualities or characteristics (like remaining as motionless as possible) when in the context of **a seismic survey**.

The Examiner contends that neither in the preambles, nor in the entire bodies of claims 1 and 64, is **a seismic survey** specifically mentioned or addressed.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a

manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Since the prior art structure is capable of performing **the intended use of acquiring seismic data** (as suggested by the seismic waves and the seismic target range sensor of Figure 1), it meets the claim.

With respect to claim 49, the prior art reference relied upon by the Examiner in the previous office action, US Patent 4,409,899 to Owen et al., teaches processing of the acoustical information using measurements of Doppler frequency shifts (col. 6, lines 1-62) where Owen et al. shows that multiple changes in received frequency are used. The Examiner therefore considers the acoustic transmission to be a frequency sweep.

The Examiner did not previously reject claim 69, which the Applicant correctly points out as having the same limitation of claim 49, since claim 69 is dependent on claim 65 which was a claim objected to as being allowable if rewritten in independent form, whereas claim 49 is dependent on claim 1 which previously was, and currently is, rejected in view of the prior art.

Claims 51 and 71, previously rejected under 35 U.S.C. 102(b), now stand rejected under 35 U.S.C. 103(a) as addressed above.

The Applicant's arguments with respect to claims 60-62 and 80-82, are not found to be persuasive following the same line of reasoning regarding claims 1 and 64 as addressed above, with a further understanding that the existence of

relative claim language, including terms of degree (like "near"), which may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph. *Seattle Box Co., v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984). Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.

In light of the specification of the prior art reference relied upon, US Patent 4,811,308 to Michael, one of ordinary skill in the art would understand what is meant by the word "near". The Examiner reminds the Applicant that the scope of the prior art is nowhere in these claims limited to the scope of **seismic surveying**, but only to **seismic data acquisition** which Michael does fall within (Abstract).

### **Conclusion**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Gutierrez whose telephone number is (571) 272-2215. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Gutierrez

  
6/11/04



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